

REMARKS

The Examiner's action dated December 29, 2004, has been received, and its contents carefully noted.

In addition, appreciation is expressed to Examiners Chin and Shew for their courtesy and constructive assistance during the interview held with the inventor and undersigned counsel on March 17, 2005.

In response to the claim objection presented in section 2 of the Action, claim 14 has been amended by replacement of "packed" by -packet-. "Packet based digital data" is, of course, a recognized term in the art.

The application claims have been amended to more clearly define the contribution of the invention over the prior art, as will be discussed in greater detail below.

The rejection presented in section 4 of the Action is respectfully traversed for the reason that the present invention, as defined in the amended claims, is not suggested by any appropriate combination of the teachings of the applied references.

The present invention, as defined in the claims rejected on these grounds, relates to local area networks in a building for providing simultaneous packet based digital data and analog telephone communication between two locations in the building. Because of the nature of packet based digital

data, it can only, in the current state of the art, be transmitted over relatively short distances and it is for this reason that only local area networks are used to transmit digital data in this form.

The prior art practice for transmitting digital and analog signals, for example according to digital subscriber line technology, has invariably employed frequency division multiplexing in which the analog signal is carried in a low frequency band and the digital data signal is carried in a higher frequency band. This technique, of course, must be implemented with comparatively costly components, including multiplexers and demultiplexers.

Although it is known in the art to transmit two different analog signals using a phantom channel to carry one of the signals, applicant is not aware of any prior art suggestion for using a phantom channel to carry an analog signal in a local area network that also carries digital data signals.

The primary reference, Guntersdorfer, is directed to apparatus for conducting analog video and analog telephone signals between a subscriber station and an exchange switching center A. Thus, this reference is directed to apparatus for use in a telecommunication system in which the subscriber station will typically be located at a substantial distance

from the exchange switching center, from which the signals must then be sent to another remote location that will typically also be at a substantial distance from the switching center. Thus, the field of this reference is clearly different from the field of local area networks. The components and wiring employed in a system of the type disclosed in the reference would not be suitable for local area networks employed for transmitting packet based digital data signals.

Moreover, with regard to the audio telephone signal, this reference only discloses that a telephone set will be coupled by a phantom circuit to a branch circuit W in the exchange switching center. The reference does not disclose the manner in which audio telephone signals will be conveyed from the branch circuit to another telephone set and there is no basis for inferring that this would occur over a further phantom circuit.

Thus, Guntersdorfer does not even disclose the use of a phantom circuit to carry analog telephone signals between two telephone devices. Guntersdorfer certainly does not disclose, and in fact teaches away from, a system that is located entirely within a building.

The secondary reference, Diab, is directed to a connector that is used for conducting digital data and that

includes a phantom circuit carrying DC power. This represents a technique that is already known in art and is termed Power over Ethernet.

With regard to the issue of whether it would be "obvious", in view of the prior art, to conduct an analog telephone signal over a phantom channel in a system for conducting digital data over wires, it is submitted to be particularly telling that Diab does discuss telephone connections and, in fact, the purpose of the DC power supplied over a phantom channel according to the teachings of Diab is to supply power to telephone devices. Nevertheless, even though Diab is aware of the possibility of conducting telephone signals over the circuitry disclosed therein, the patentee did not evidence any awareness of the possibility of conducting the telephone signals over the phantom channel. Rather, the reference discloses that power may be supplied for a telephone connection in which a voice communication is conducted with internet protocol! (Column 3, line 4).

Thus, while Guntersdorfer only discloses conducting analog signals and conducting an analog telephone signal between a telephone and a branch circuit, Diab, which is concerned with conducting digital data signals, and which discloses the use of a phantom circuit, did not evidence any

conception of using the phantom circuit to conduct an analog telephone signal.

It should additionally be kept in mind that digital packet based data signals cannot be conducted over the type of system disclosed by Guntersdorfer.

It is therefore submitted that the applied references, when considered in their entireties, do not provide those skilled in the art with any suggestion for constructing the network, or practicing the method, defined in the rejected claims.

Thus, claim 1 distinguishes patentably over any reasonable combination of the teachings of the applied references at least by its recitation of "A communication local area network in a building for providing simultaneous packet based digital data and analog telephone communication" between a central location and a remote location, both of which are located in the building. Claim 1 further distinguishes over the applied references by its positive recitations of a central analog telephone device and a remote analog telephone device, both of which are connected to a phantom channel.

Claim 10 distinguishes patentably over the applied references in essentially the same matter as claim 1.

Claim 13 further distinguishes patentably over the applied references by its recitation that, in effect, there are at least three pairs of conductors and two phantom channels. Neither of the applied references discloses an arrangement having this number of conductor pairs and phantom channels.

Claim 14 distinguishes patentably over the applied reference by its recitation of a kit for a digital data communication local area network that comprises at least one cable in a building between a first location and a second location in the building. The cable provides packet based digital data communication channels between respective digital devices. The kit provides, over at least two pairs of conductors of the cable, an analog telephone channel between respective center-taps of primary windings of two pairs of signal transformers.

Claim 21 distinguishes over the applied references in a manner similar to Figure 1. Claim 21 is directed to a digital device connectable to at least two pairs of conductors for conveying packet based digital data through the conductors to and from at least one other digital device in a local area network in a building. According to claim 21, the digital device is connectable to at least one local analog telephone device and is operative to transmit analog signals between the

at least one local analog telephone device and at least one other analog telephone device over the pairs of conductors in a phantom channel mode.

Claim 26 distinguishes over the applied references in a manner similar to claim 1. Claim 26 is directed to a method for enabling conductors that are operative to convey packet based digital data between at least two digital devices in a local area network in a building to also and simultaneously convey analog signals between at least two analog telephone devices. According to the method defined in claim 26, a first connection of a phantom channel is provided in association with at least two pairs of conductors at a first end of the conductors and a second connection of the phantom channel in association with the conductors is provided at a second end of the conductors, thus allowing two analog telephone devices to be connected to the first and second connections.

The rejection of claims 23, 24 and 25, beginning on page 14 of the action, is also respectfully traversed.

Claim 23 is directed to a combination outlet for pluggably connecting a digital device and an analog telephone device to respective ends of at least two conductor pairs so as to be able to simultaneously convey data signals to and from the digital device and analog telephone signals to and

from the analog telephone device. Claim 23 has been amended so that it now recites that the outlet comprises a wiring connector for connecting to the two conductor pairs, a data connector having at least two pairs of contacts for connecting to the data device, an analog telephone connector having at least one pair of contacts for connecting to the analog telephone device, the analog telephone connector being disposed proximate to the data connector, and at least one pair of signal transformers each having a primary winding provided with a center-tap and a secondary winding. Claim 23 further specifies that the ends of each of the primary windings are coupled to the wiring connector, the secondary winding of each transformer is connected to a respective pair of contacts of the data connector and respective center-taps of each of the two primary windings are connected to the pair of contacts in the analog telephone connector.

Claim 23 thus effectively defines a phantom channel, between the center-taps of the transformer primary windings, for conducting analog telephone signals between analog telephone devices.

As already noted above, Diab does not disclose the concept of conducting telephone signals in the manner defined in claim 23. Bux also does not provide such a disclosure. Moreover, although Bux does disclose an outlet, this outlet

has only two connectors, one connected to network wiring and one connected to a device, the wiring carrying both data and power.

Neither of the applied references discloses a telephone signal, a telephone connector or a telephone device. Moreover, neither reference discloses three connectors, as now define in claim 23, and in particular neither reference discloses a telephone connector.

It is therefore submitted that claim 23 clearly distinguishes patentably over the applied references.

The rejection of claims 3, 4 and 16-20, beginning on page 16 of the Action, is also respectfully traversed.

Firstly, these claims should be considered allowable at least in view of their dependency from allowable claims.

Furthermore, these claims include limitations that further distinguish over the prior art.

Claim 3 specifies that the two transformers defined in claim 2 are contained in a wall outlet. Contrary to the assertions presented in support of the rejection, Bux does not disclose an outlet containing transformers. The only wall outlet disclosed in this reference, identified in the drawings of the reference numeral 25, does not include any electronics or transformers.

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Similarly, claim 15 specifies that the module containing signal transformers is packaged in a wall connector.

Claim 18 further distinguishes over the reference by its recitation of additional components included in the wall connector, none of which components is disclosed in the Bux reference.

In further connection with this rejection, it must be noted that the other applied references also do not disclose connectors having the features defined in the rejected claims.

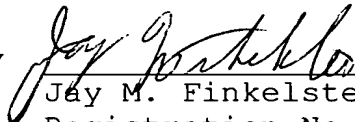
In view of the foregoing, it is requested that the rejections of record be reconsidered and withdrawn, that all of the pending claims be allowed and that the Application be found in allowable condition.

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If the above amendment should not now place the application in condition for allowance, the Examiner is invited to call undersigned counsel to resolve any remaining issues.

Respectfully submitted,

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